DE/AFS/SF

Packaging Specialties, Inc.

P.O. Box 360
Fayetteville, AR 72702-0360
479-521-2580
Fax 479-521-2748

November 8, 2007

Mr. William Rogers
Air Quality and Permits Manager
Idaho Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706

RE: Application for Pre-Permit Construction
Packaging Specialties of Idaho
Burley, Idaho

Dear Mr. Rogers:

Packaging Specialties, Inc. (PSI) proposes to construct a flexographic printing facility in Burley, Idaho. PSI intends to begin construction of the plant within 15 days of submittal of this application. Therefore, we request permission for Pre-Permit Construction in accordance with Part 213 of Idaho Rules for the Control of Air Pollution (IDAPA 58.01.01.213). The enclosed PTC application conforms to the January 2001 Idaho Department of Environmental Quality (DEQ) *Pre-Permit Construction Approval Guidance Document.*

PSI has consulted by phone with IDEQ representatives as outlined in the completeness checklist. Today, we have spoke with Faye Weber of the IDEQ regarding the notice of informational meeting and the publication of this meeting in a newspaper. After speaking with her we understand that this publication in the paper will be handled by IDEQ and depending on the response from this notice the informational meeting may or may not need to occur.

We have determined that construction of our facility is eligible for Pre-Permit Construction in that our Burley plant is not a major facility or a major modification, we are not proposing to use offsets or netting, and emissions from our facility are not going to impact air quality related values in a Class I area.

By this application, PSI certifies we will comply with all limitations, operating requirements, monitoring requirements, and reporting requirements described in the enclosed application. Also, pursuant to Idaho Rules (IDAPA 58.01.01.123), I certify that based on information and belief formed after reasonable inquiry, the statements and information in this application are true, accurate, and complete.

We appreciate your assistance in moving this project forward on such short notice. Please feel free to call either Mr. George Long at (479) 521-2580 or our consultant Mr. Shannon Lynn of ECCI at (501) 663-8247 if you have any questions.

Sincerely,

Robert Farrell
CEO
Packaging Specialties, Inc.

cc: Shannon Lynn - ECCI

FEES RECEIVED FROM FACILITY

Date Stamp (date received in PO)

RECEIVED

NOV 2 3 2007

Department of Environmental Quality
State Air Program

Facility Name	PACKAGING SPECIALTIES
Facility Location	BURLEY, ID
Fee Type (PTC Application, PTC Processing, T2 Processing)	PTC APPLICATION
Check Number	2051
Check Date	11/8/07
Check Amount	$1,000

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/26/07

Please see instructions on page 2 before filling out the form.

All information is required. If information is missing, the application will not be processed.

IDENTIFICATION	
1. Company Name	Packaging Specialties, Inc.
2. Facility Name (If different than #1)	Packaging Specialties of Idaho
3. Facility I.D. No.	
4. Brief Project Description:	Construct a new flexographic printing facility
FACILITY INFORMATION	
5. Owned/operated by: (√ if applicable)	☐ Federal government ☐ County government ☐ State government ☐ City government
6. Primary Facility Permit Contact Person/Title	George Long / Customer Service Manager
7. Telephone Number and Email Address	479-521-2580 / glong@psi-ark.com
8. Alternate Facility Contact Person/Title	Mike Throgmorton / Research & Development
9. Telephone Number and Email Address	479-521-2580 / mthrogmorton@psi-ark.com
10. Address to which permit should be sent	Packaging Specialties P.O. Box 360
11. City/State/Zip	Fayetteville, AR 72702
12. Equipment Location Address (If different than #10)	126 S. 100 W.
13. City/State/Zip	Burley, ID 83318
14. Is the Equipment Portable?	☐ Yes ☒ No
15. SIC Code(s) and NAISC Code	Primary SIC: 2759 Secondary SIC (If any): NAICS: 323112
16. Brief Business Description and Principal Product	Flexographic Printing on stretch and shrink plastic films
17. Identify any adjacent or contiguous facility that this company owns and/or operates	none
PERMIT APPLICATION TYPE	
18. Specify Reason for Application	☒ New Facility ☐ New Source at Existing Facility ☐ Unpermitted Existing Source ☐ Modify Existing Source: Permit No.:____ Date Issued: ____ ☐ Permit Revision ☐ Required by Enforcement Action: Case No.:____
CERTIFICATION	
IN ACCORDANCE WITH IDAPA 58.01.01.123 (RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO), I CERTIFY BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION IN THE DOCUMENT ARE TRUE, ACCURATE, AND COMPLETE.	
19. Responsible Official's Name/Title	Robert Farrell / CEO
20. RESPONSIBLE OFFICIAL SIGNATURE	[signature] Date: 11/15/07
21. ☒ Check here to indicate you would like to review a draft permit prior to final issuance.	

SOUTH IDAHO PRESS
BURLEY, IDAHO
AFFIDAVIT OF PUBLICATION

County of Cassia)
)ss
STATE OF IDAHO)

Ruth Anne Holmes, being first duly sworn, deposes and says that she is the Legal Clerk of the South Idaho Press, a weekly newspaper published at Burley, Idaho, in the county aforesaid and that the paper is of general circulation therein. Deponent further states that the printed notice attached hereto was duly published according to law in the regular editions of the South Idaho Press for one consecutive week(s), commencing with the issue dated 16th day of November, 2007 and ending with the issue dated 16th day of November, 2007

Ruth Anne Holmes

[redacted]
[redacted]
[redacted]

An informational meeting will be held at the conference room of the Best Western located at 800 North Overland Ave, Burley, Idaho from 3 PM to 4 PM on Monday, November 26, 2007 in accordance with the Rules for the Control of Air Pollution in Idaho, Idaho Administrative Code IDAPA 58.01.01.213.02 Permit to Construct Procedures for Pre-Permit Construction.

The purpose of the meeting is to inform the general public of Packaging Specialties of Idaho, Inc. of Burley request to construct a new flexographic printing facility on 3 acres of property it owns at 126 S 100 W, Burley Idaho. This facility is applying for a Minor Permit to Construct this facility which will emit up to 50 Tons per year of VOC's along with minor amounts of other pollutants. This facility plans to be in operation by the spring of 2008.

PUBLISHED: South Idaho Press November 16, 2007.

STATE OF IDAHO)
COUNTY OF)ss
Cassia)

On this 16th day of November, 2007, before me, a Notary Public, personally appeared Ruth Anne Holmes, know or identified to me to be the person whose name is subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledged to me that she executed the same.

ANN L. HARPER
Notary Public
State of Idaho

Ann Harper
Notary Public for Idaho
Residing at Burley, Idaho.

My commision expires: 9-14-2013

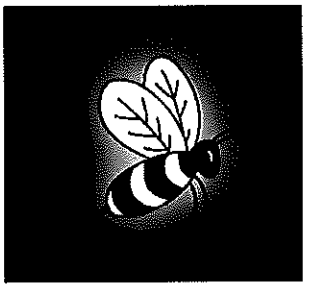
Cost of Publication 24.75

Affidavit Fee 5.00

Total Cost 29.75

Pre-Permit Construction Approval Application For

RECEIVED
NOV 2 3 2007
Department of Environmental Quality
State Air Program



PACKAGING SPECIALTIES OF IDAHO
BURLEY, IDAHO
126 South 100 West
Burley, Idaho 83318

PACKAGING SPECIALTIES, INC.
P.O. Box 360
Fayetteville, Arkansas 72702

NOVEMBER 2007

Prepared by:

ENGINEERING, COMPLIANCE AND CONSTRUCTION, INC.
415 NORTH MCKINLEY, SUITE 1180
LITTLE ROCK, ARKANSAS 72205
TELEPHONE: (501) 663-8247 • FACSIMILE: (501) 664-5005

PRE-PERMIT CONSTRUCTION APPROVAL APPLICATION

FOR

PACKAGING SPECIALTIES OF IDAHO

BURLEY, IDAHO

Prepared By: _____
Shannon G. Lynn, P.E.

Reviewed By: _____
Rodney K. Breuer, P.E.

ECCI Job No. 4212-3004

NOVEMBER 2007

PRE-PERMIT CONSTRUCTION APPROVAL APPLICATION
FOR
PACKAGING SPECIALTIES OF IDAHO
BURLEY, IDAHO

NOVEMBER 2007

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1.0 INTRODUCTION

1.0 INTRODUCTION

Packaging Specialties, Inc. (PSI) is headquartered in Fayetteville, Arkansas and owns and operates a facility there that provides printed films to over 20 different food and non-food industries throughout North America and around the world. PSI can print from 1-color line up to a 10-color process on a variety of film types. Other printing options include film perforating, slitting, inside coupon printing, sequential or random placement of promotional items, all on either wide or narrow web presses.

PSI proposes to construct a facility in Burley, Cassia County, Idaho that will mirror the operations of the Arkansas facility. In order to expedite construction and operation, PSI is filing this Pre-Permit to Construct Application in accordance with the *Rules for Control of Air Pollution in Idaho (Rules)* IDAPA 58.01.01.213.

This application will serve to demonstrate that the facility meets the requirements by:

- Completing a comprehensive air quality assessment and regulatory review;
- Not proposing a new major facility, or a major modification;
- Not utilizing emission offsets (netting); and
- Being willing to commence construction at PSI's own risk prior to issuance of a Permit to Construct. A risk exists because PSI may not operate the source until a Permit to Construct is issued. Thus, if a Permit to Construct is ultimately denied, or is issued but contains limits unacceptable to PSI, PSI may simply be out the money spent constructing an inoperable source.

By this application, PSI will certify that it will comply with all limitations, operating requirements, monitoring requirements and reporting requirements described herein.

2.0 PROCESS DESCRIPTION

2.0 PROCESS DESCRIPTION

Two (2) ten color flexographic printing presses will be utilized at the Burley facility that will use solvent based inks. The proposed normal operating schedule for Packaging Specialties is a six day week operating 24 hours per day. Seven days per week will be utilized as needed by production demands.

The raw materials to be used at the Burley facility will include clear film, solvents and inks. The printing process will be the same for the printing presses and identical to their operations permitted in Fayetteville, Arkansas.

There will no bulk storage tanks for inks and solvents at PSI. All inks will be delivered in 55-gallon drums and 5-gallon kits. Solvents will be delivered in 55-gallon drums and totes. Solvents and inks are prepared for the presses in a mixing room. Emissions from this area are negligible.

Each printing deck on a press is capable of laying down one color of ink. As a roll of clear film is unwound in the press, it passes through each of the printing decks where the ink is applied. Immediately after this occurs, an electric dryer with forced air dries the ink and captures the VOC's. All exhausts from the printing presses are ducted to the RTO, where greater than 95% destruction efficiency will occur. The RTO is natural gas-fired with a burner rated at 3.7 MMbtu/hr. The printed film is then rewound, removed from the press, and sent to shipping.

Each press is also equipped with an individual exhaust to atmosphere. These are locked in the closed position and would only be used during an upset condition with the RTO. However, if a printing press printing uses water based inks for greater than 24 hours, PSI proposes to exhaust that press directly to atmosphere. Regardless, at all times negative pressure will be maintained on the pressroom during production. This ensures a 100 percent capture process.

The majority of emissions from PSI will be the various toxic air pollutants (TAPs) in the inks and solvents. PSI calculates emissions assuming that 100% of the VOCs and TAPs from the raw materials volatilize and are fed to the RTO. Total facility receipts will be tracked on a monthly basis to demonstrate compliance.

The facility will also emit small quantities of criteria pollutants due to the products of natural gas combustion in the RTO. This will include nitrogen oxides (NO_x), sulfur oxides (SO_2), carbon monoxide (CO) and particulate matter (PM/PM_{10}).

PSI does not have any other combustion emission sources (i.e., compressors, generators, etc.)

EQUIPMENT LIST ASSOCIATED WITH EMISISONS

Thermal Oxidiezer

1.Manufacturer - Anguil Environmental Systems
2 Model # - Model #150
3. Serial # - AES-75275
4. Maximum Process Rate - 15,000 SCFM
5. Proposed Process Rate - 10,000 - 15,000 SCFM
6. Maximum Heat Input Capacity - 3.7 MMBTU/hr installed burner capacity
7. Stack Height - 30' above grade
8. Stack Diameter - 34"
9. Stack Gas Flow rate - 20,000 ACFM
10. Stack Gas Temperature – 250 °F

Printing Press #1

1 Manufacturer - P.C.M.C., 2300 S. Ashland Ave., Green Bay, WI. 54304

2 Model: Infinity NT

3. Serial # 1004680
4. Max Process Rate: 360 lbs. per hour
5. Proposed Process Rate 37 lbs. per hour
6. Max heat input capacity: electrically heated compressed air 17- 8 kW electric elements
7. Stack Height 34' to 36'
8. Stack Diameter 18"
9. Stack Gas Flow rate: 4000 to 5000 scfm
10. Stack Gas Temperature 115 degrees °F

Printing Press #2

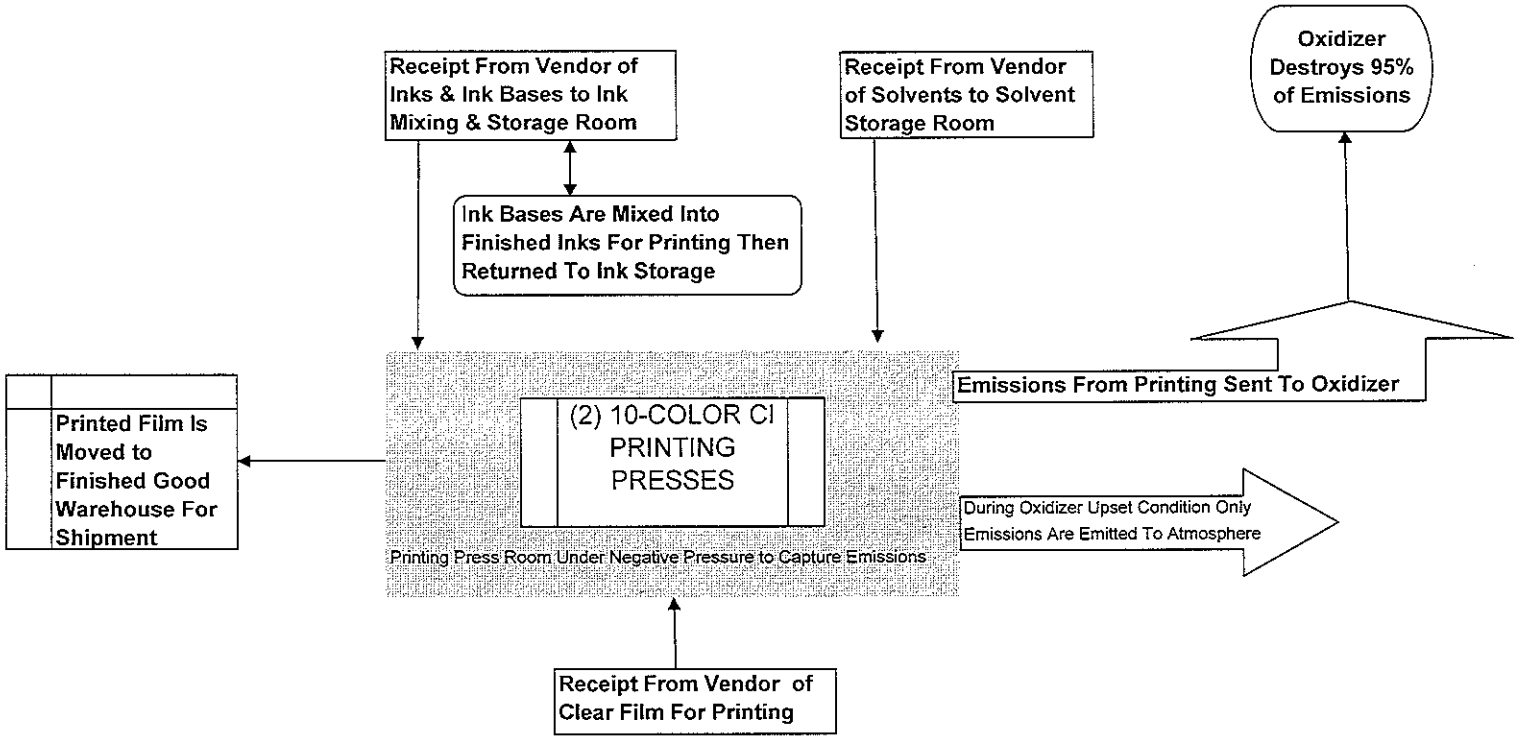
1 Manufacturer - P.C.M.C., 2300 S. Ashland Ave., Green Bay, WI. 54304

2 Model: Infinity NT

3. Serial # 1004681
4. Max Process Rate: 360 lbs. per hour
5. Proposed Process Rate 37 lbs. per hour
6. Max heat input capacity: electrically heated compressed air 17- 8 kW electric elements
7. Stack Height 34' to 36'
8. Stack Diameter 18"
9. Stack Gas Flow rate: 4000 to 5000 scfm
10. Stack Gas Temperature 115 degrees °F

3.0 PROCESS FLOW DIAGRAM

PROCESS FLOW DIAGRAM FOR PACKAGING SPECIALTIES OF IDAHO, BURLEY, ID



The only emission point from the process is the thermal oxidizer stack.

Note: The oxidizer emissions are NOx, SO2, CO, VOC, and PM from natural gas combustion and trace amounts of VOC and TAP emissions from the destruction process.

Note: During an upset condition (oxidizer failure) emissions would be VOCs and TAPs.

4.0 REGULATORY REVIEW

4.0 REGULATORY REVIEW

The following State and Federal air quality regulations have been reviewed to determine applicability to the PSI Facility and its associated equipment.

4.1 Idaho Administrative Procedures Act 16, Title 1, Chapter 1 Department of Environmental Quality - Air Quality Regulations

The potential sources of emissions have been identified and are listed in Section 5.0 PSI proposes to comply with the IDEQ air regulations and policies as noted below:

123 - Certification of Documents

124 - Truth, Accuracy & Completeness of Documents

125 - False Statements

PSI understands that all documents, including but not limited to, application forms for permits to construct, application forms for operating permits, progress reports, records, monitoring data, supporting information, requests for confidential treatment, testing reports or compliance certifications submitted to the Department shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

The appropriate certification is included with this application.

128 - Confidential Information

No confidential information is included in this application.

130 thru 136 - Upset Conditions, Excess Emissions, Startup / Shutdown

PSI understands that the purpose of Sections 130 through 136 is to establish procedures and requirements to be implemented in all excess emissions events and to establish criteria to be applied by the Department in determining

determining whether to take enforcement action to impose penalties for an excess emissions event where the excess emissions are caused by startup, shutdown, scheduled maintenance, upset, or breakdown of any emissions unit or which occur as a direct result of the implementation of any safety measure.

In the event of an upset condition, startup or shutdown, PSI will comply with all applicable provisions of Sections 130-136.

155 - Circumvention

PSI realizes its responsibility to not willfully cause or permit the installation or use of any device or use of any means that conceals emissions of pollutants that would otherwise violate the provisions of this chapter without resulting in a reduction in the total amount of emissions.

156 - Total Compliance

PSI understands that where more than one (1) section of these rules applies to a particular situation, all such rules must be met for total compliance, unless otherwise provided for in these rules.

157 - Testing

PSI will comply with any testing requirements as required by the IDEQ. Testing will be performed in accordance with the provisions of this Section and any applicable EPA test methods.

161 - Toxic Substances

All toxic air pollutants (TAPs) emitted from the Burley facility will be below the EL's, as set forth in Section 210.

210 - Demonstration of Preconstruction Compliance with Toxic Standards

PSI understands its responsibility, in accordance with Subsection 203.03, to demonstrate preconstruction compliance with Section 161 to the satisfaction

of the Department. The accuracy, completeness, execution and results of the demonstration are all subject to review and approval by the Department.

This demonstration can be found in Section 8.0, Ambient Air Quality Analysis. All potential TAPs from this facility are below the EL screening levels. These will be emitted through the RTO stack.

223 - Exemption Criteria, Recordkeeping and Reporting for Toxic Air Pollutant Emissions

This section states that no permit to construct for toxic air pollutants is required for a source that satisfies any of the exemption criteria listed in this section. PSI does not qualify for the exemptions under this part and is required to obtain a permit to construct.

224 - Permit to Construct Application Fee

All applicants for a permit to construct shall submit a permit to construct application fee of one thousand dollars ($1,000) to the Department at the time of the original submission of the application. PSI's PTC application fee will be $1,000 and is included with this application.

225 - Permit to Construct Processing Fee

A permit to construct processing fee, calculated by the Department shall be paid to the Department by the person receiving the permit. The applicable processing fee category shall be determined by adding together the amount of increases of regulated pollutant emissions and subtracting any decreases of regulated pollutant emissions as identified in the permit to construct. The fee calculation shall not include fugitive emissions. PSI's PTC processing fee is expected to be $5,000.

300 thru 399 - Tier I Operating Permits

These sections are not applicable since this is not a Title V major source.

400 thru 499 - Tier II Permits

This section is currently not applicable. It is understood that the issuance of the permit to construct will also authorize and allow operation for this facility based on emission levels.

577 - Ambient Air Quality Standards for Specific Air Pollutants

Based on the low level emissions of these pollutants, PSI is in full compliance with this section.

578 - Designation of Attainment, Unclassifiable and Non-Attainment Areas.

The PSI facility will locate in Cassia County which is an attainment area for all pollutants.

585 - Toxic Air Pollutants Non-Carcinogenic Increments

586 - Toxic Air Pollutant Carcinogenic Increments

The screening emissions levels (EL) and acceptable ambient concentrations (AAC) for non-carcinogens and carcinogens are provided by the IDEQ. The AAC in this section are twenty-four (24) hour averages.

All TAPs that will be emitted by PSI are below the screening emissions levels (ELs).

590 - New Source Performance Standards (NSPS)

No sources at the PSI facility are subject to any NSPS requirements.

591 - National Emission Standards for Hazardous Air Pollutants (NESHAP)

No sources at the PSI facility are subject to any NESHAP requirements.

625 - Visible Emissions

PSI understands the requirements to not discharge any air pollutant into the atmosphere from any point of emission for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period which is greater than twenty percent (20%) opacity.

Since the RTO is natural gas-fired, it is not anticipated that opacity would be an issue. All other emissions are VOCs.

650 & 651 - Rules for the Control of Fugitive Emissions from Dust

PSI does not anticipate fugitive dust emissions based on the nature of its operation.

675 thru 681 - Particulate Emissions from Fuel Burning Equipment

Since PSI will only be combusting natural gas, it fully believes it will be in compliance with the particulate matter limits outlined in these sections. The burner is rated at 3.7 MMbtu/hr and would be subject to the 0.015 gr/scf limit under Section 677.

700 thru 703 - Particulate Matter Process Weight Limits

Particulate emissions at PSI are less than 1 pound per hour (natural gas combustion). Thus, the facility is exempt from the requirements of these sections.

775 - Rules for the Control of Odors

The purpose of Sections 775 through 776 is to control odorous emissions from all sources for which no gaseous emission control rules apply. No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids into the atmosphere in such quantities as to cause air pollution.

The RTO at PSI will ensure that odorous emissions are kept to a minimum from the inks and solvents used at the facility.

4.2 New Source Performance Standards (NSPS)

The IDEQ has delegation and administers NSPS. Accordingly, this section addresses all potentially applicable Subparts.

4.2.1 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Section 60.40c(a) of Subpart Dc states that 'the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million Btu per hour (Btu/hr)) or less, but greater than or equal to 2.9 MW (10 million Btu/hr).'

There are no process heaters at the PSI facility. Thus, PSI is exempt from the requirements of Subpart Dc.

4.2.2 Subpart K - Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978

Section 60.110(a) of Subpart K states that 'the affected facility to which this subpart applies is each storage vessel for petroleum liquids which has a storage capacity greater than 151,412 liters (40,000 gallons).

There are no bulk storage vessels located at the PSI facility.

4.2.3 Subpart Ka - Standards of Performance for Storage Vessels for Petroleum liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984

Section 60.110a(a) of Subpart Ka states that 'the affected facility to which this subpart applies is each storage vessel for petroleum liquids which has a storage capacity greater than 151,412 liters (40,000 gallons) and for which construction is commenced after May 18, 1978.

There are no bulk storage vessels located at the PSI facility.

4.2.4 Subpart Kb - Standards of Performance for Volatile Organic Liquids Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

Section 60.110b(a) of Subpart Kb states that 'Except as specified in paragraphs (b), (c), and (d) of 60.116b, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal 40 m^3 that is used to store volatile organic liquids (VOLs) for which construction, reconstruction, or modification is commenced after July 23, 1984.

There are no bulk storage vessels located at the PSI facility.

4.3 National Emission Standards for Hazardous Air Pollutants (NESHAP)

Title 40, Part 61, Code of Federal Regulations (40 CFR 61) establishes emission standards for hazardous air pollutants including asbestos, benzene, beryllium, mercury, radionucleotides, elemental phosphorus, and vinyl chloride.

Based on not handling any of the above designated hazardous air pollutants, NESHAP requirements are currently not applicable to the PSI facility.

Title 40, Part 63, Code of Federal Regulations (40 CFR 63) establishes emission standards for source categories.

There are currently no NESHAP requirements or source categories applicable to the PSI facility.

4.4 Prevention of Significant Deterioration (PSD)

Under Federal Prevention of Significant Deterioration (PSD) requirements, all major new or modified sources of air emissions regulated under the 1977 Clean Air Act Amendments (CAAA) and located in an attainment area must be reviewed and approved by the Environmental Protection Agency (EPA) or by the state agency, if PSD review authority has been granted. PSD review is not applicable to the PSI facility since total emissions are less than 100 tpy of VOC.

4.5 Toxic Air Pollutants (TAPs)

TAP emissions from the PSI facility are primarily due to hydrocarbons in the inks and solvents. Total TAP emissions are less than 10 TPY for any single pollutant and less than 25 TPY for an aggregate of TAPs. Thus, the facility is not a major TAP source for Title V permitting purposes.

4.6 Compliance Assurance Monitoring Rule (CAM)

Pursuant to 40 CFR Part 64, EPA has promulgated regulations to implement compliance assurance monitoring (CAM) for major stationary sources of air pollution that are required to obtain operating permits under Title V of the CAAA. These regulations require owners and operators of such sources to conduct monitoring that satisfies particular criteria established in the rule to provide a reasonable assurance of

compliance with applicable requirements under the CAAA. Monitoring focuses on emission units that rely on pollution control device equipment to achieve compliance with applicable standards. The regulations also provide procedures for coordinating these requirements with EPA's operating permits program.

Except for backup utility units, the CAM Rule applies to a pollutant-specific emissions unit at a major source that is required to obtain a 40 CFR Part 70 or 71 permit if the unit satisfies all of the following criteria:

- the unit is subject to an emission limitation or standard for the applicable regulated air pollutant or a surrogate thereof;

- the unit uses a control device to achieve compliance with any such limitation or standard; and

- the unit has a potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount (in tons per year) required for a source to be classified as a major source.

As such, no source at PSI meets all of these criteria. Thus, PSI is currently exempt from the CAM rule.

5.0 POTENTIAL TO EMIT / EMISSION ESTIMATES / EMISSION LIMITS

5.0 EMISSION POINT SOURCES

Emissions from the PSI plant result from the volatilization of inks and solvents used in the printing presses and from the combustion of natural gas.

The emissions from combustion processes, when present, are estimated on the basis of the weight and Btu content of the fuel. All other emissions are estimated using material balances and emission factors based on material throughput or production.

The following abbreviations are used throughout the application and calculations:

Btu	British Thermal Unit
MMBtu	One million Btu
MMBtu/hr	Million Btu/hour
lb	pound(s)
lb/hr	pounds per hour
lb steam/hr	pounds of steam per hour
ton	ton(s)
tpy	tons per year
[ ]	Descriptive comments in calculations are enclosed in square brackets

Underlined numbers in the calculation statements are the values entered on the emission rate tables for the source.

The following criteria pollutants are emitted as a result of the above listed processes:

1. Particulate Matter (PM/PM_{10})
2. Volatile Organic Compounds (VOC)
3. Carbon monoxide (CO)
4. Sulfur dioxides (SO_2)
5. Nitrogen oxides (NO_x)

All emissions from the PSI plant are produced from the following sources:

Regenerative Thermal Oxidizer (RTO) – 3.7 MMbtu/hr and natural gas fired
Two (2) 10-Color Printing Presses – VOC/TAP emissions routed to RTO
Ink/Solvent Mixing and Preparation – assumed to be negligible

Each process having emissions, and the permitted emission points associated with those processes are discussed below. Emission calculations are also provided.

REGENERATIVE THERMAL OXIDIZER (RTO) - COMBUSTION

The natural gas combustion emissions from the RTO are calculated assuming continuous operation and using emission factors from Section 1.4 of EPA's AP-42 for natural gas combustion. Since the burner is rated at 3.7 mmBtu/hr, the fuel rate is 3,700 SCF/hr.

PM/PM_{10}: 7.6 lb/10^6 ft^3 * 3,700 SCF/hr = **0.03 lbs/hr**

0.03 lbs/hr * 8,760 hours/yr * ton/2,000 lbs = **0.14 TPY PM/PM_{10}**

SO_2: 0.6 lb/10^6 ft^3 * 3,700 SCF/hr = **0.003 lbs/hr**

0.003 lbs/hr * 8,760 hours/yr * ton/2,000 lbs = **0.014 TPY SO_2**

NO_x: 100.0 lb/10^6 ft^3 * 3,700 SCF/hr = **0.37 lbs/hr**

0.37 lbs/hr * 8,760 hours/yr * ton/2,000 lbs = **1.7 TPY NO_x**

CO: 84.0 lb/10^6 ft^3 * 3,700 SCF/hr = **0.32 lbs/hr**

0.32 lbs/hr * 8,760 hours/yr * ton/2,000 lbs = **1.5 TPY CO**

VOC: 5.5 lb/10^6 ft^3 * 3,700 SCF/hr = **0.02 lbs/hr**

0.02 lbs/hr * 8,760 hours/yr * ton/2,000 lbs = **0.09 TPY VOC**

REGENERATIVE THERMAL OXIDIZER (RTO) – VOC DESTRUCTION

Emissions from the two (2) printing presses will be captured and routed to the RTO. Based on the operation of a similar unit at PSI's Fayetteville, Arkansas location, the destruction efficiency is conservatively estimated to be 95%.

The pressroom is maintained under negative pressure with all emissions being routed to the RTO. It is assumed that 100% of the VOC and TAP compounds introduced into the process are volatilized and routed to the RTO.

PSI bases emissions on purchase records. PSI proposes to demonstrate compliance through monthly recordkeeping and purchase records. The attached spreadsheet demonstrates how this is achieved.

The first column indicates all volatiles and TAPs present in the solvents and inks used. The next nine (9) columns indicate the purchases of inks and solvents at the Fayetteville, Arkansas plant broken down by constituent. The next two (2) columns are the 9-month summation and that summation scaled to a twelve (12) month basis.

The Burley plant will conservatively be approximately 33% of the size of the Arkansas facility. The next column is simply 33% of the scaled 12-month values. In reality, it is expected that Burley will be about 25% of the capacity of the Arkansas facility.

The next column reduces the total pounds by 95% to reflect the destruction capacity of the RTO. This results in total facility emissions of 15.3 TPY of VOC emissions. For cushion, PSI proposes to permit with an emissions limit/cap of 50 TPY of VOC emissions. Thus, the next column scales up emissions by a factor of 50.0 / 15.3.

Lastly, this column is divided by the number of operating hours (6 days per week, 24 hours per day, 52 weeks per year) to arrive at an estimated pounds per hour. This is represented in Column P. These emission rates were compared to the screening emission levels (EL's) where all were below the respective EL and signifying no modeling was required.

Thus, to demonstrate ultimate compliance PSI recommends the following permit conditions:

1. The facility shall combust only pipeline quality natural gas. Natural gas usage shall be limited to 32,412,000 cubic feet on a rolling 12-month average. Compliance will be demonstrated by maintaining a monthly log of gas used.

2. Facility VOC emissions shall be limited to 50 tons per year. The facility will maintain a log of ink and solvent purchases, updated on a monthly basis to demonstrate compliance on a 12-month rolling average.

3. Facility TAP emissions for any single TAP shall be limited to 9.5 tons per year. The facility will maintain a log of ink and solvent purchases, updated on a monthly basis to demonstrate compliance on a 12-month rolling average.

4. Facility TAP emissions for all TAPs combined shall be limited to 24.5 tons per year. The facility will maintain a log of ink and solvent purchases, updated on a monthly basis to demonstrate compliance on a 12-month rolling average.

ARKANSAS 2007 PURCHASES

	jan	feb	mar	ap	may	jun	jul	aug	sep	9 MONTH TOTAL	EXTENDED TO 12 MONTHS	ASSUME BURLEY @ 33%	ASSUME 95% RTO DESTRUCTION	Scaled up for 50 TPY limit	Adjusted lbs/hr 24 hr/dy, 6 dy/wk	IDEQ EL lbs/hr	
1-METHOXY-2-PROPANOL	625.1	626.7	1,249.4	1,249.4	616.9	446.3	875.9	636.4	822.6	7,149	9,508	3,138	157	511	0.068	24.000	below EL
1Propoxy 2Propanol	5,527.0	6,275.4	5,542.4	4,225.1	6,238.3	4,679.3	5,786.9	4,526.6	5,926.0	49,727	66,137	21,825	1,091	3,558	0.475	24.000	below EL
2-METHOXY-1-PROPANOL	13.2	13.2	38.6	38.6	13.2	13.2	27.1	13.2	25.4	196	260	86	4	14	0.002	24.000	below EL
Dibutyl Phthalate	8.4		25.7	7.7	20.4	8.0	24.7	8.2	16.0	119	158	52	3	9	0.001	0.333	below EL
Dipropylene Glycol Methyl Ether	173.3	134.8	134.8	96.3	192.6	107.0	159.4	135.9	117.7	1,252	1,665	549	27	90	0.012	40.000	below EL
Ethyl Acetate	1,603.2	2,760.8	2,825.9	1,573.9	2,900.0	1,725.5	2,525.8	1,352.3	2,221.6	19,489	25,920	8,554	428	1,394	0.186	93.300	below EL
Ethyl Alcohol	49,416.2	70,634.3	72,941.9	50,636.4	71,310.5	55,470.6	56,807.6	53,805.8	51,951.5	532,975	708,856	233,923	11,696	38,129	5.092	125.000	below EL
Formaldehyde										0	-	-	-	-	0.000	0.001	below EL
Heptane	8,309.9	10,395.8	11,909.8	12,573.2	9,810.5	12,617.7	4,595.5	16,542.0	6,479.7	93,234	124,001	40,920	2,046	6,670	0.891	109.000	below EL
Isobutyl Alcohol										0	-	-	-	-	0.000	10.000	below EL
Isopropyl Acetate	2,434.9	1,631.2	956.3	1,152.8	1,412.0	2,465.6	661.4	2,116.9	1,130.0	13,961	18,568	6,128	306	999	0.133	69.300	below EL
Isopropyl Alcohol	2,953.7	2,358.5	2,441.0	2,320.6	2,404.9	2,790.4	1,776.6	3,164.6	1,839.1	22,049	29,326	9,677	484	1,577	0.211	65.300	below EL
Light Aliphatic Naphtha / Lactol Spirits	1,552.3	1,536.6	682.5	678.4	1,651.7	1,485.9	680.2	828.4	2,892.9	11,989	15,945	5,262	263	858	0.115		below EL
Methyl Alcohol										0	-	-	-	-	0.000	17.300	below EL
Methyl Ethyl Keytone										0	-	-	-	-	0.000	39.300	below EL
Nitrocellulose Resin - NOT A VOC	*3,415.8*	*2,486.2*	*2,184.0*	*1,935.9*	*2,599.0*	*2,811.1*	*1,994.4*	*2,817.9*	*2,157.3*	22,402	29,794	9,832	492	1,603	0.214		below EL
Normal Butyl Alcohol	5.4	15.2		2.8	5.1	22.5			16.4	67	90	30	1	5	0.001	10.000	below EL
Normal Propyl Acetate	19,414.4	25,916.9	26,202.0	15,685.3	26,451.5	20,263.8	24,273.8	21,761.8	23,103.6	204,073	271,417	89,568	4,478	14,600	1.950	56.000	below EL
Normal Propyl Alcohol	30,776.6	47,308.5	50,377.7	29,257.7	47,260.3	33,902.7	45,063.1	49,454.6	47,691.2	382,092	508,183	167,700	8,385	27,335	3.651	33.300	below EL
Propylene Glycol Monomethyl Ether	719.1	642.0	394.4	291.5	766.3	391.1	466.4	601.8	401.2	4,674	6,216	2,051	103	334	0.045		below EL
Propylene Glycol Monomethyl Ether Acetate	0.0	0.0			0.0	0.0			0.0	0	-	-	-	-	0.000		below EL
Toluene	6.3		19.3	5.8	15.3	6.0	18.5	6.1	12.0	89	119	39	2	6	0.001	25.000	below EL
VM&P Naphtha	3,514.5	3,339.0	3,690.0	2,460.0	4,217.5	3,514.5	3,690.0	4,393.0	4,041.5	32,860	43,704	14,422	721	2,351	0.314	91.300	below EL
Xylene										0	-	-	-	-	0.000	29.000	below EL
TOTAL PURCHASES	**131,469.3**	**176,075.1**	**181,615.7**	**125,191.4**	**177,886.0**	**142,721.2**	**150,427.3**	**162,165.5**	**150,845.7**	**1,398,397**	**1,859,868**	**613,757**	**30,688**	100,042			
TONS / MONTH	**65.7**	**88.0**	**90.8**	**62.6**	**88.9**	**71.4**	**75.2**	**81.1**	**75.4**	**699.2**	**929.9**	**306.9**	**15.3**	50	13.360		

1-METHOXY-2-PROPANOL
1Propoxy 2Propanol
2-METHOXY-1-PROPANOL
Dibutyl Phthalate
Dipropylene Glycol Methyl Ether
Ethyl Acetate
Ethyl Alcohol
Formaldehyde
Heptane
Isobutyl Alcohol
Isopropyl Acetate
Isopropyl Alcohol
Light Aliphatic Naphtha / Lactol Spirits
Methyl Alcohol
Methyl Ethyl Keytone
Nitrocellulose Resin - NOT A VOC
Normal Butyl Alcohol
Normal Propyl Acetate
Normal Propyl Alcohol
Propylene Glycol Monomethyl Ether
Propylene Glycol Monomethyl Ether Acetate
Toluene
VM&P Naphtha
Xylene

6.0 FACILITY CLASSIFICATION

6.0 DETERMINE FACILITY'S CLASSIFICATION

PSI is not a facility subject to Prevention of Significant Deterioration (PSD) requirements. The facility is a true, minor source with proposed VOC emissions of 50 TPY. All other criteria pollutant emissions are less than 2.0 TPY.

Thus, in accordance with the PTC Guidance Document:

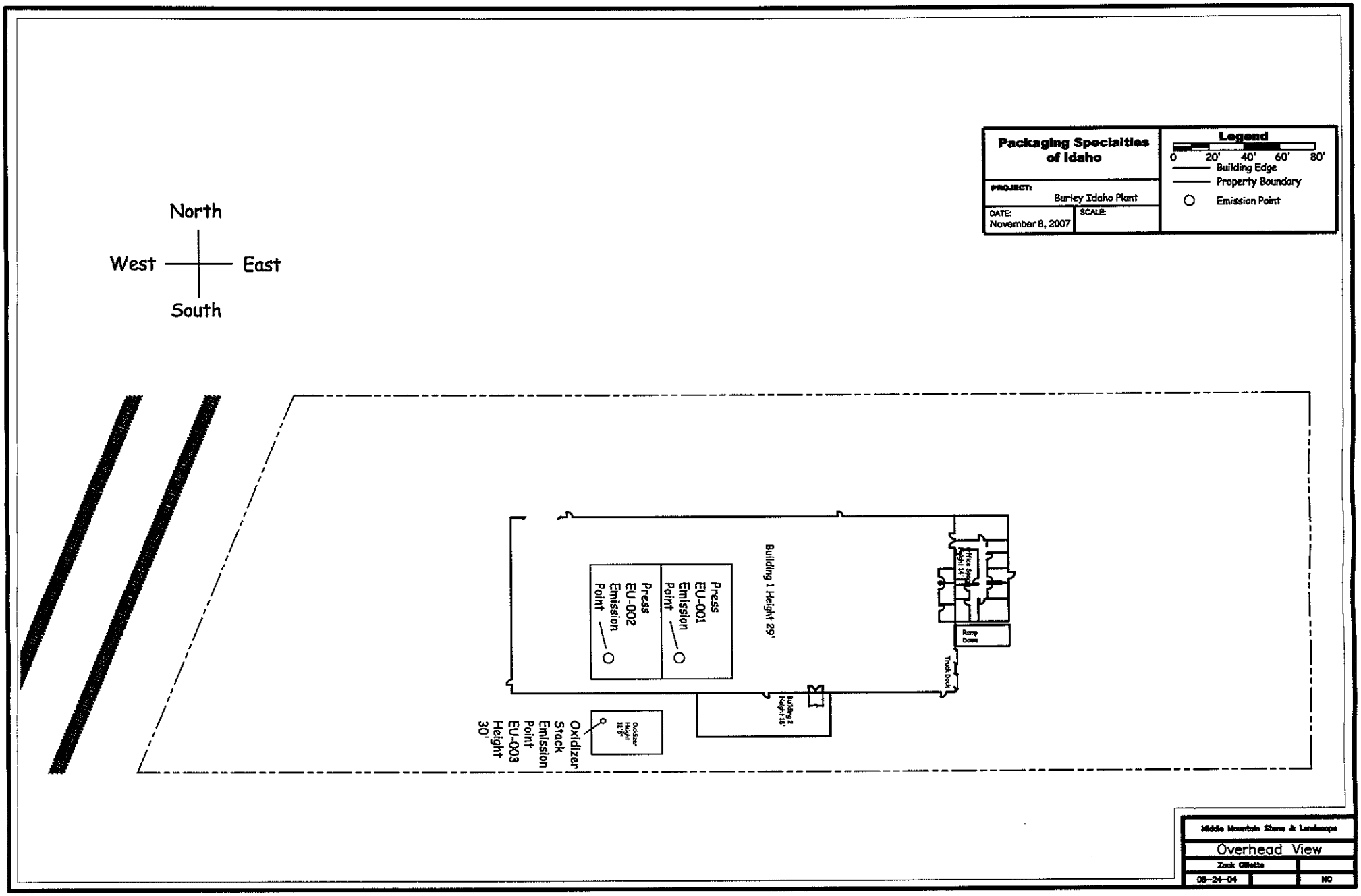
Designated: ___ yes _X__ no

If yes, give category: not applicable

Give Potential to Emit: 50 tons per year

Give Pollutant which defines Potential to Emit: volatile organic compounds

7.0 SCALED PLOT PLAN


Packaging Specialties of Idaho
PROJECT:
Burley Idaho Plant
DATE:
November 8, 2007
SCALE:
Legend
0 20' 40' 60' 80'
Building Edge
Property Boundary
Emission Point
North
West
East
South
Building 1 Height 29'
Press EU-001 Emission Point
Press EU-002 Emission Point
Office Space Height 14'
Ramp Door
Truck Dock
Building 2 Height 18'
Oxidizer Stack Emission Point EU-003 Height 30'
Oxidizer Height 12'9"
Middle Mountain Stone & Landscape
Overhead View
Zack Gillette
08-24-04
NO

8.0 AMBIENT IMPACT ASSESSMENTS

8.0 AMBIENT AIR QUALITY ANALYSIS

An applicant for a permit to construct is required to conduct an air quality analysis of the ambient impacts associated with existing sources and the construction and operation of proposed new sources. PSI submitted the following protocol to the IDEQ. An email was received from the Department (attached) stating that based on this protocol and emissions presented, no further analysis was necessary.

8.1 Model Purpose

This modeling analysis will be used to demonstrate compliance with ambient air quality standards for a proposed new facility to be constructed in Burley, Cassis County, Idaho. Criteria emissions will be emitted based on natural gas combustion in a 3.7 MMbtu/hr thermal oxidizer. Only NO_x emissions, at 1.7 tons per year, will trigger a review. All other criteria pollutants are less than the Significant Contribution Levels (SCLs). Toxic air pollutants (TAPs) that exceed the screening emission level (EL) will be modeled.

8.2 Dispersion Model Selection

Modeling will be performed in accordance with EPA guidelines and protocol. The dispersion modeling analyses are being performed using the latest version of the personal computer software version of AERMOD. This version includes a "Regulatory Default Option," which when used, automatically selects appropriate wind profile exponents and other model parameters. The Regulatory Default Option is used for all of the modeling exercises.

8.3 Emission and Source Data

Emission data will be based on design rates and potential to emit. The appropriate stack height, diameters, exit velocities, temperatures, and emission rates will be applied. These rates are currently being developed.

A scaled plot plan indicating building and source locations will be included in the final modeling package.

Sources will be evaluated in terms of their proximity to nearby structures using the AERMOD version of BPIP. The purpose of the evaluation is to determine if the stack discharge may become caught in the turbulent wake of the structures, leading to downwash of the plume and possible high-level concentrations in the vicinity of an emission source. Thus, all sources will be modeled considering the effects of downwash.

8.4 Receptor Grid

The AERMOD model will be set up to use discrete Cartesian receptors. Discrete Cartesian grid receptors will be placed at 50 meter intervals along the facility fence line. Discrete Cartesian receptors will also form a 50 meter grid from the fence line to a distance equivalent to 500 meters and 100 meters to a distance of 1000 meters.

8.5 Terrain Data

Appropriate 7.5 minute U.S. Geological Survey (USGS) Digital Elevation Model (DEM) data will be incorporated through the AERMAP module for determining elevations and hill heights for receptors and base elevations for buildings and sources. These will be obtained online from www.webgis.com.

8.6 Meteorological Data

If available, Packaging Specialties proposes to use a 5-year meteorological data set provided by the Idaho Department of Environmental Quality (IDEQ). If data is not available, the facility will use the data recommended for use by the IDEQ. The facility will be located in Burley, Cassia County, Idaho.

8.7 Land Use Classification

The model has rural and urban modes that affect wind profile exponents, dispersion rates, and mixing heights used in the computation. The Rural Mode will be selected for the analyses based on land use in the area. Rural Mode gives the highest, worst case concentrations.

8.8 Background Concentrations

The majority of the modeling is predicted to be for toxic air pollutants (TAPs) and background concentrations are typically not applicable for TAPs. Background levels will be used for any applicable criteria pollutants.

8.9 Evaluation of Compliance with Standards

Summary tables will be prepared in accordance with IDEQ modeling guidelines to address compliance with the IDEQ modeling standards.

8.10 Electronic Copies of Modeling Files

All applicable files will be submitted to the IDEQ so that the Department can verify results independently.

Shannon Lynn

From: Kevin.Schilling@deq.idaho.gov
Sent: Wednesday, October 31, 2007 12:01 PM
To: Shannon Lynn
Cc: Darrin.Mehr@deq.idaho.gov
Subject: RE: Modeling Protocol for Burley, ID Facility

Shannon,

Thank you for checking with DEQ on modeling requirements for your clients proposed facility.

It appears from your emails that the only source of emissions will be the thermal oxidizer. Based on emissions from natural gas combustion and your estimates of TAPs, and because this will be a new facility rather than modification of an existing facility, modeling analyses will not be required for demonstrating compliance with applicable standards. This decision is based on the following:

1) DEQ has developed modeling thresholds in the DEQ air modeling guideline (available on the DEQ web page). If criteria pollutant emissions are below the thresholds presented in the guideline, modeling is not required. DEQ is also in the process of developing conditional thresholds that are somewhat higher than the values listed in the guideline. Based on the natural gas emissions factors, NOx would be the only pollutant that would exceed the existing threshold. However, the thresholds are based on not causing a significant impact (1.0 ug/m3 for NO2) to ambient air rather than complying with NAAQS (100 ug/m3). Since this will be a new facility (no existing emissions), NAAQS would still be easily met with an emissions rate of 1.7 ton/yr. Also, the new conditional threshold for NOx will likely be on the order of 7.0 ton/yr.

2) All TAP emissions are below the applicable ELs. TAP emissions methods and values presented in the protocol were not reviewed by DEQ. It was assumed that all TAP emissions were correctly identified and calculated.

Please provide a copy of this email in the application as documentation that a modeling analysis is not required.

Contact me if you have any additional questions or comments.

Kevin Schilling
Stationary Source Air Modeling Coordinator
Idaho Department of Environmental Quality
208 373-0112

From: Shannon Lynn [mailto:SLynn@ecci.com]
Sent: Wednesday, October 31, 2007 8:49 AM
To: Kevin Schilling
Cc: Darrin Mehr
Subject: RE: Modeling Protocol for Burley, ID Facility

Kevin,

Good morning!! As I understand it, Darrin is out until next week. Would you be the one handling the protocol at this point. I have a facility anxious for me to complete the permit to construct application and the modeling protocol approval is a significant part of that. Anything you can do to expedite this request would be greatly affiliated by the client and me.

As I understand the program there, none of our TAPs will meet the EL thresholds and will all screen out. The only criteria pollutant that triggers is NOx at just over 1 ton per year (3.7 MMbtu/hr natural gas fired source).

Thank you in advance for your time. I will call later today to follow up.

Thanks!
Shannon

Shannon G. Lynn, P.E.
415 North McKinley, Suite 1180
Little Rock, AR 72205
(501) 663-8247
(501) 664-5005 fax
(501) 454-6264 cell

From: Darrin.Mehr@deq.idaho.gov [mailto:Darrin.Mehr@deq.idaho.gov]
Sent: Tuesday, October 30, 2007 4:08 PM
To: Shannon Lynn
Cc: Kevin.Schilling@deq.idaho.gov
Subject: RE: Modeling Protocol for Burley, ID Facility

Hi Shannon, I have sent your request for AERMOD-ready Burley, Idaho met data on to Kevin Schilling, Modeling Coordinator. Kevin can be reached at 208-373-0112.

I have not had a chance to complete a full review of your modeling protocol at this point. If Kevin is not able to get to it I will review your documentation and either ask for additional information to complete the modeling protocol info needs or issue a modeling protocol approval letter with comments. I will be out of the office until next Thursday November 8th, 2007.

Thanks

Darrin Mehr
Air Quality Analyst
Monitoring, Modeling & Emissions Inventory
Idaho Department of Environmental Quality
Phone: 208-373-0536
Fax: 208-373-0143
e-mail: Darrin.Mehr@deq.idaho.gov

From: Shannon Lynn [mailto:SLynn@ecci.com]
Sent: Wednesday, October 24, 2007 4:27 PM
To: Darrin Mehr
Subject: Modeling Protocol for Burley, ID Facility

Darrin,

Thank you so much for your time earlier this afternoon to discuss modeling issues around the Burley, ID area. The plant that will be locating there, Packaging Specialties, Inc. (PSI) , is headquartered in Springdale, Arkansas and performs flexographic printing for clients.

I have attached 2 files. The first is the proposed modeling protocol for the facility. The second is a spreadsheet with projected, scaled emissions for the Idaho facility. PSI, which is operating at capacity in Arkansas, has taken the first 9 months of actual purchases (based on inks, dyes, solvents, etc.) and projected that out to twelve months. PSI expects the initial capacity of Burley to be about 33% of the Springdale, AR facility. In addition, to control emissions, PSI will install a thermal oxidizer that is expected to achieve at least 95% efficiency. With all of

this applied, the result was annual emissions of approximately 15.3 tpy VOC total. PSI would like to permit for 50 tpy to allow cushion for growth.

The pounds per hour were then achieved by dividing by 7,488 hours per year (6 days per week at 24 hours per day, 52 weeks per year). These hourly rates were compared against the IDEQ EL values. If I have done this correctly, all of the projected emission rates are below the EL's.

The thermal oxidizer (RTO) is natural gas fired and rated at 3.7 MMbtu/hr. The only criteria pollutant exceeding the SCL was NOx at a little over a ton per year.

All of this will be formally submitted as part of a permit application package but I mainly wanted to make sure I was applying the EL exclusion correctly and receive approval of the attached protocol.

If you believe modeling is not justified at this point, we will gladly incorporate that into the15 day pre-permit to construct application.

Thanks for your time!

Shannon

Shannon G. Lynn, P.E.
415 North McKinley, Suite 1180
Little Rock, AR 72205
(501) 663-8247
(501) 664-5005 fax
(501) 454-6264 cell

9.0 IDEQ APPLICATION FORMS

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
04/03/07

Please see instructions on page 2 before filling out the form.

DEQ USE ONLY
Date Received
Project Number
Payment / Fees Included? Yes ☐ No ☐
Check Number

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER

1. Company Name	Packaging Specialties, Inc.	
2. Facility Name	Packaging Specialties of Idaho	3. Facility ID No.
4. Brief Project Description - One sentence or less	Construct a New Flexographic Printing Facility	

PERMIT APPLICATION TYPE

5. ☒ New Facility ☐ New Source at Existing Facility ☐ Unpermitted Existing Source
☐ Modify Existing Source: Permit No.:____ Date Issued:____
☐ Required by Enforcement Action: Case No.:____

6. ☒ Minor PTC ☐ Major PTC

FORMS INCLUDED

Included	N/A	Forms	DEQ Verify
☒	☐	Form GI – Facility Information	☐
☒	☐	Form EU0 – Emissions Units General	☐
☐	☒	Form EU1 - Industrial Engine Information Please Specify number of forms attached: ____	☐
☐	☒	Form EU2 - Nonmetallic Mineral Processing Plants Please Specify number of forms attached: ____	☐
☐	☒	Form EU3 - Spray Paint Booth Information Please Specify number of forms attached: ____	☐
☐	☒	Form EU4 - Cooling Tower Information Please Specify number of forms attached: ____	☐
☐	☒	Form EU5 – Boiler Information Please Specify number of forms attached: ____	☐
☐	☒	Form HMAP – Hot Mix Asphalt Plant Please Specify number of forms attached: ____	☐
☐	☒	Form CBP - Concrete Batch Plant Please Specify number of forms attached: ____	☐
☐	☒	Form BCE - Baghouses Control Equipment	☐
☐	☒	Form SCE - Scrubbers Control Equipment	☐
☒	☐	Forms EI-CP1 - EI-CP4 - Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	☐
☒	☐	PP – Plot Plan	☐
☐	☒	Forms MI1 – MI4 – Modeling (Excel workbook, all 4 worksheets)	☐
☒	☐	Form FRA – Federal Regulation Applicability	☐

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/26/07

Please see instructions on page 2 before filling out the form.

All information is required. If information is missing, the application will not be processed.

IDENTIFICATION	
1. Company Name	Packaging Specialties, Inc.
2. Facility Name (if different than #1)	Packaging Specialties of Idaho
3. Facility I.D. No.	
4. Brief Project Description:	Construct a new flexographic printing facility
FACILITY INFORMATION	
5. Owned/operated by: (√ if applicable)	☐ Federal government ☐ County government ☐ State government ☐ City government
6. Primary Facility Permit Contact Person/Title	George Long / Customer Service Manager
7. Telephone Number and Email Address	479-521-2580 / glong@psi-ark.com
8. Alternate Facility Contact Person/Title	Mike Throgmorton / Research & Development
9. Telephone Number and Email Address	479-521-2580 / mthrogmorton@psi-ark.com
10. Address to which permit should be sent	Packaging Specialties P.O. Box 360
11. City/State/Zip	Fayetteville, AR 72702
12. Equipment Location Address (if different than #10)	126 S. 100 W.
13. City/State/Zip	Burley, ID 83318
14. Is the Equipment Portable?	☐ Yes ☒ No
15. SIC Code(s) and NAISC Code	Primary SIC: 2759 Secondary SIC (If any): NAICS: 323112
16. Brief Business Description and Principal Product	Flexographic Printing on stretch and shrink plastic films
17. Identify any adjacent or contiguous facility that this company owns and/or operates	none
PERMIT APPLICATION TYPE	
18. Specify Reason for Application	☒ New Facility ☐ New Source at Existing Facility ☐ Unpermitted Existing Source ☐ Modify Existing Source: Permit No.:_____ Date Issued: _____ ☐ Permit Revision ☐ Required by Enforcement Action: Case No.:_____

CERTIFICATION		
IN ACCORDANCE WITH IDAPA 58.01.01.123 (RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO), I CERTIFY BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION IN THE DOCUMENT ARE TRUE, ACCURATE, AND COMPLETE.		
19. Responsible Official's Name/Title	Robert Farrell / CEO	
20. RESPONSIBLE OFFICIAL SIGNATURE		Date:
21. ☒ Check here to indicate you would like to review a draft permit prior to final issuance.		

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/27/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

Company Name:	Facility Name:	Facility ID No:
Packaging Specialties, Inc.	Packaging Specialties of Idaho	
Brief Project Description:	Construct a New Flexographic Printing Facility	

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

1. Emissions Unit (EU) Name:	10-COLOR PRINTING PRESSES
2. EU ID Number:	EU-001
3. EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
4. Manufacturer:	P.C.M.C.
5. Model:	INFINITY NT
6. Maximum Capacity:	360 POUNDS PER HOUR
7. Date of Construction:	NOVEMBER 2007
8. Date of Modification (if any)	NOT APPLICABLE
9. Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 18.

EMISSIONS CONTROL EQUIPMENT

10. Control Equipment Name and ID:	Regenerative Thermal Oxidizer RTO EU-003		
11. Date of Installation:	11-2007	12. Date of Modification (if any):	
13. Manufacturer and Model Number:	Anguil Environmental Systems - Model 150		
14. ID(s) of Emission Unit Controlled:	EU-001 and EU-002		
15. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No		
16. Does the manufacturer guarantee the control efficiency of the control equipment?	☒ Yes ☐ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency					97 (claiming 95)	

17. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

18. Actual Operation	24 HOURS/DAY, 6 DAYS/WEEK, 52 WEEKS/YEAR
19. Maximum Operation	8,760 HOURS PER YEAR

REQUESTED LIMITS

20. Are you requesting any permit limits?	☒ Yes ☐ No (If Yes, check all that apply below)
☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☐ Material Usage Limit(s):	
☐ Limits Based on Stack Testing	Please attach all relevant stack testing summary reports
☒ Other:	50 TPY VOC, 9.5 TAP, 24.5 ALL TAPS
21. Rationale for Requesting the Limit(s):	TO MAINTAIN MINOR SOURCE STATUS

Emissions Unit - General **Form EU0**

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/27/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

Company Name:	Facility Name:	Facility ID No:
Packaging Specialties, Inc.	Packaging Specialties of Idaho	
Brief Project Description:	Construct a New Flexographic Printing Facility	

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

1. Emissions Unit (EU) Name:	10-COLOR PRINTING PRESSES
2. EU ID Number:	EU-002
3. EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
4. Manufacturer:	P.C.M.C.
5. Model:	INFINITY NT
6. Maximum Capacity:	360 POUNDS PER HOUR
7. Date of Construction:	NOVEMBER 2007
8. Date of Modification (if any)	NOT APPLICABLE
9. Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 18.

EMISSIONS CONTROL EQUIPMENT

10. Control Equipment Name and ID:	Regenerative Thermal Oxidizer RTO EU-003		
11. Date of Installation:	11-2007	12. Date of Modification (if any):	
13. Manufacturer and Model Number:	Anguil Environmental Systems - Model 150		
14. ID(s) of Emission Unit Controlled:	EU-001 and EU-002		
15. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No		
16. Does the manufacturer guarantee the control efficiency of the control equipment?	☒ Yes ☐ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency					97 (claiming 95)	

17. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

18. Actual Operation	24 HOURS/DAY, 6 DAYS/WEEK, 52 WEEKS/YEAR
19. Maximum Operation	8,760 HOURS PER YEAR

REQUESTED LIMITS

20. Are you requesting any permit limits?	☒ Yes ☐ No (If Yes, check all that apply below)
☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☐ Material Usage Limit(s):	
☐ Limits Based on Stack Testing	Please attach all relevant stack testing summary reports
☒ Other:	50 TPY VOC, 9.5 TAP, 24.5 ALL TAPS
21. Rationale for Requesting the Limit(s):	TO MAINTAIN MINOR SOURCE STATUS

Emissions Unit - General **Form EU0**

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/27/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION		
Company Name: Packaging Specialties, Inc.	Facility Name: Packaging Specialties of Idaho	Facility ID No:
Brief Project Description:	Construct a New Flexographic Printing Facility	

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION	
1. Emissions Unit (EU) Name:	REGENERATIVE THERMAL OXIDIZER (RTO)
2. EU ID Number:	EU-003
3. EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
4. Manufacturer:	ANGUIL
5. Model:	150
6. Maximum Capacity:	3.7 MMBTU/HR (NATURAL GAS FIRED)
7. Date of Construction:	NOVEMBER 2007
8. Date of Modification (if any)	NOT APPLICABLE
9. Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 18.

EMISSIONS CONTROL EQUIPMENT			
10. Control Equipment Name and ID:			
11. Date of Installation:		12. Date of Modification (if any):	
13. Manufacturer and Model Number:			
14. ID(s) of Emission Unit Controlled:			
15. Is operating schedule different than emission units(s) involved?	☐ Yes ☐ No		
16. Does the manufacturer guarantee the control efficiency of the control equipment?	☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

17. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)	
18. Actual Operation	24 HOURS/DAY, 6 DAYS/WEEK, 52 WEEKS/YEAR
19. Maximum Operation	8,760 HOURS PER YEAR

REQUESTED LIMITS	
20. Are you requesting any permit limits?	☒ Yes ☒ No (If Yes, check all that apply below)
☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☐ Material Usage Limit(s):	
☐ Limits Based on Stack Testing	Please attach all relevant stack testing summary reports
☐ Other:	
21. Rationale for Requesting the Limit(s):	

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PERMIT TO CONSTRUCT APPLICATION

Revision 3
4/5/2007

Please see instructions on page 2 before filling out the form.

Company Name:	**Packaging Specialties, Inc.**
Facility Name:	Packaging Specialties of Idaho
Facility ID No.:	
Brief Project Description:	construct a new flexographic printing facility

SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - POINT SOURCES

1.	2.	3.											
		PM_{10}		SO_2		NO_X		CO		VOC		Lead	
Emissions units	Stack ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Source(s)													
Printing Press 1	EU-001												
Printing Press 2	EU-002												
Regenerative Thermal Oxidizer	EU-003	0.03	0.14	0.00	0.01	0.37	1.70	0.32	1.50	13.50	50.10		
(insert more rows as needed)													
Total		0.03	0.14	0.00	0.01	0.37	1.70	0.32	1.50	13.50	50.10		

	DEQ AIR QUALITY PROGRAM 1410 N. Hilton, Boise, ID 83706 For assistance, call the **Air Permit Hotline - 1-877-5PERMIT**	**PERMIT TO CONSTRUCT APPLICATION** Revision 3 4/5/2007

Please see instructions on page 2 before filling out the form.

Company Name:	**Packaging Specialties, Inc.**
Facility Name:	Packaging Specialties of Idaho
Facility ID No.:	
Brief Project Description:	construct a new flexographic printing facility

SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - POINT SOURCES

1.	2.	3.											
		PM_{10}		SO_2		NO_X		CO		VOC		Lead	
Emissions units	**Stack ID**	**lb/hr**	**T/yr**	**lb/hr**	**T/yr**	**lb/hr**	**T/yr**	**lb/hr**	**T/yr**	**lb/hr**	**T/yr**	**lb/hr**	**T/yr**
Point Source(s)													

Instructions for Form EI-CP1

This form is designed to provide the permit writer and air quality modeler with a summary of the criteria pollutant emissions of each emission unit/point located at the facility. This information may be used by the IDEQ to perform an air quality analysis or to review an air quality analysis submitted with the permit application or requested by the IDEQ.

Please fill in the same company name, facility name, facility ID number, and brief project description as on form CS in the boxes provided. This is useful in case any pages of the application get separated.

1. Provide the name of all emission units at the facility. This name must match names on other submittals to IDEQ and within this application.

2. Provide the identification number for the stack which the emission unit exits.

3. Provide the emission rate in pounds per hour and tons per year for all criteria pollutants emitted by this point source. In this form, emission rates for a point source are the maximum allowable emissions for both short term (pounds per hour) and long term (tons per year). These emission rates are its permitted limits (if any). Otherwise, potential to emit should be shown. Potential to emit is defined as uncontrolled emissions at maximum design or achievable capacity (whichever is higher) and year-round continuous operation (8760 hours per year) if there are no federally enforceable permit limits on the emission point. If the emission point has or will have control equipment or some other proposed permit limitation such as hours of operation or material usage, the control efficiency or proposed permit limit(s) may be used in calculating potential to emit.

NOTE: Attach a separate sheet of paper, or electronic file, to provide additional documentation on the development of the emission rates. Documentation can include emissions factors, throughput, and example calculations.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/26/07

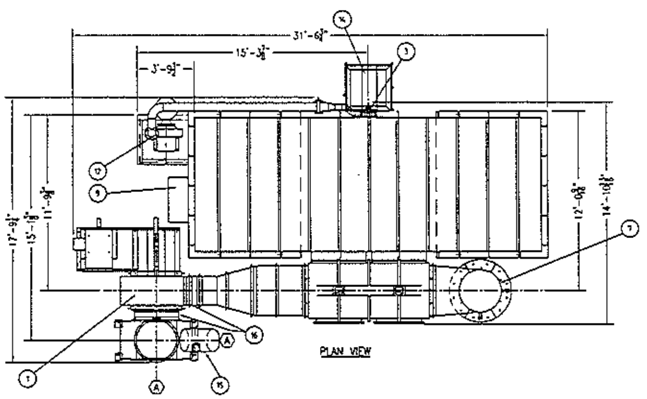
Please see instructions on page 2 before filling out the form.

IDENTIFICATION		
Company Name: Packaging Specialties, Inc.	Facility Name: Packaging Specialties of Idaho	Facility ID No:
Brief Project Description: construct a new flexographic printing facility		

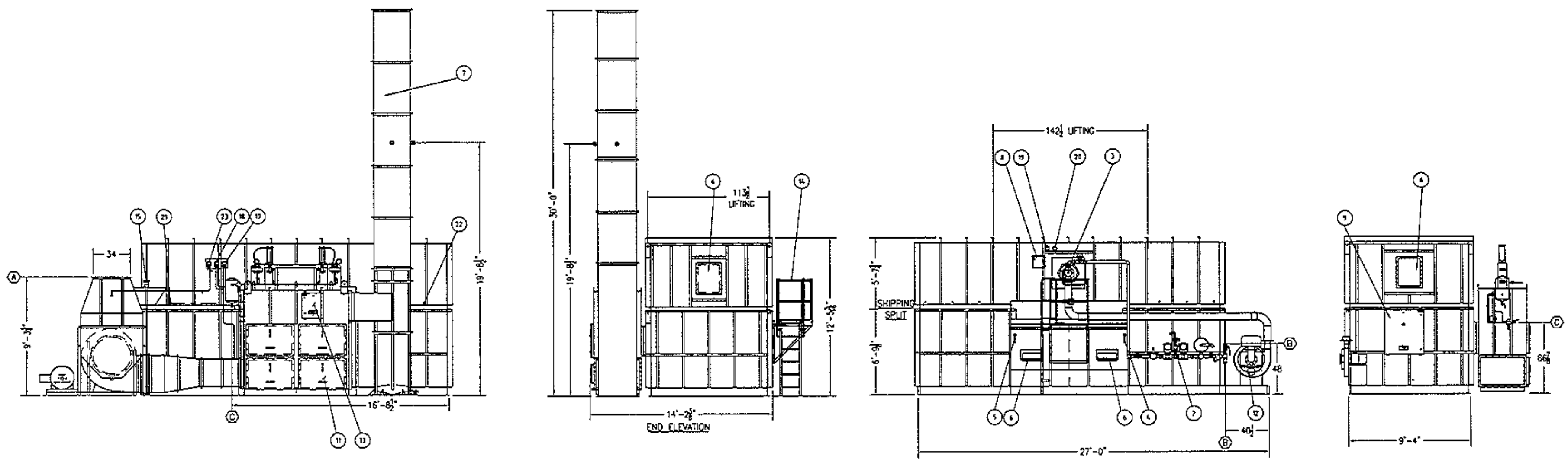
APPLICABILITY DETERMINATION		
1. Will this project be subject to 1990 CAA Section 112(g)? (Case-by-Case MACT)	☒ NO	☐ YES* * If YES, applicant must submit an application for a case-by-case MACT determination [IAC 567 22-1(3)"b" (8)]
2. Will this project be subject to a New Source Performance Standard? (40 CFR part 60)	☒ NO	☐ YES* *If YES, please identify sub-part: _____
3. Will this project be subject to a MACT (Maximum Achievable Control Technology) regulation? (40 CFR part 63) THIS ONLY APPLIES IF THE PROJECT EMITS A HAZARDOUS AIR POLLUTANT	☒ NO	☐ YES* *If YES, please identify sub-part: _____
4. Will this project be subject to a NESHAP (National Emission Standards for Hazardous Air Pollutants) regulation? (40 CFR part 61)	☒ NO	☐ YES* *If YES, please identify sub-part: _____
5. Will this project be subject to PSD (Prevention of Significant Deterioration)? (40 CFR section 52.21)	☒ NO	☐ YES
6. Was netting done for this project to avoid PSD?	☒ NO	☐ YES* *If YES, please attach netting calculations

IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS, CALL THE AIR PERMIT HOTLINE AT **1-877-5PERMIT**

10.0 SUPPORTING INFORMATION



PLAN VIEW



POPPET SIDE ELEVATION

END ELEVATION

BURNER SIDE ELEVATION

ITEM NO.	DESCRIPTION	DWG. NO.	TAG NO.	COMMENTS
16	FLEX JOINT	D000		
17	PRESSURE SWITCH - SYSTEM LOW	500	PDSL-107	
18	PRESSURE SWITCH - SYSTEM HIGH	500	PDSH-108	
19	PRESSURE SWITCH - HIGH GAS DIFFERENTIAL	500	PDSH-204	
20	PRESSURE SWITCH - COMBUSTION AIR PROVING	500	PDSL-244	
21	THERMOCOUPLE 24" LG		TE-121A/B	
22	THERMOCOUPLE 24" LG		TE-122A/B	
23	PRESSURE SWITCH EXCESSIVE NEGATIVE PRESSURE	500	PSL-107	

ITEM NO.	DESCRIPTION	DWG. NO.	TAG NO.	COMMENTS
1	SYSTEM FAN CW, BHD,	-D000	F-101	
2	FUEL TRAIN	-H000		
3	BURNER	H010	B-301	
4	THERMOCOUPLE, 24" LONG		TE-127	
5	THERMOCOUPLE, 24" LONG		TE-128	
6	ACCESS DOOR	A000		
7	EXHAUST STACK 34"Ø, W/ (2) 2"Ø SAMPLE PORTS	C000		
8	IGNITION TRANSFORMER & ENCLOSURE	-451	IT-233	
9	OXIDIZER JUNCTION BOX			
10				
11	POPPET VALVE, Ø32" DUAL	32-CP00	XV101/116	
12	COMBUSTION AIR FAN, UBD, CW	F000		
13	POPPET JUNCTION BOX	-451		
14	ACCESS PLATFORM	HK00		
15	FRESH AIR DAMPER	D000	FCV-400	

[redacted]

ANGUIL

ANGUIL ENVIRONMENTAL SYSTEMS, INC.
MILWAUKEE, WISCONSIN

TITLE: MODEL 150 REGENERATIVE THERMAL OXIDIZER
SAMPLE GENERAL ARRANGEMENT

DRAWING NO.

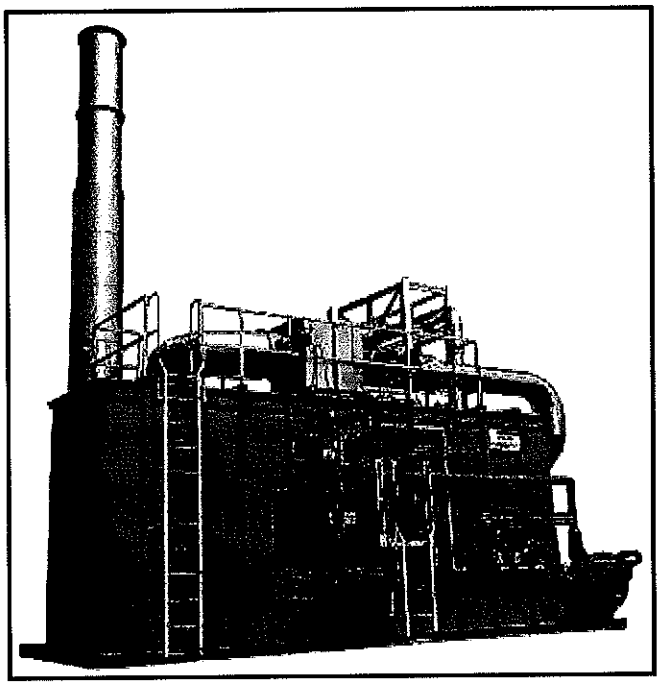
SCALE

DRAWN	DATE	CUSTOMER	REV.
CHECKED	DATE	PACKAGING SPECIALTIES	
APPROVED	DATE		
LAST DRAWN	DATE	SOURCE	PAGE OF

LAST PLOT BY | DATE

ANGUIL
Regenerative Thermal Oxidizer

October 19, 2007
Proposal # AES - 75275



Prepared for:
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8855 NORTH 55TH STREET
MILWAUKEE, WISCONSIN 53223
Phone: (414) 365-6400 • Fax: (414) 365-6410
www.anguil.com

Table of Contents

ATACHMENTS:

Sample General Arrangement Drawing

Section I - Design Considerations

APPLICATION DATA AND DESIGN PARAMETERS

• Process Producing Emissions:	Two (2) 10-color PCMC Printing Presses
• Process Flow Rate:	10,000 SCFM
• RTO Design Flow Rate:	15,000 SCFM Maximum
• VOC Breakdown:	Isopropyl Alcohol & Isopropyl Acetate
• VOC Concentration:	~3% LEL
• Oxidizer Location:	Outdoors
• Required Fuel:	Natural Gas at 2-5 psig
• Required Power:	460V / 60 Hz / 3 Ph
• Required Compressed Air:	80-100 psig (-40°F dewpoint)

INSTALLATION DESIGN PARAMETERS

• Oxidizer Location:	Outdoors on grade
• Oxidizer Control Panel Location:	Indoors

DESIRED RESULTS

- Compliance with local regulatory agency by obtaining 98% VOC destruction efficiency.
- Keep the capital cost of the project to a minimum
- Minimize yearly operational cost of the system
- Seamless integration into current process

EQUIPMENT RECOMMENDATION

- One (1) Anguil Model 150 Regenerative Thermal Oxidizer (RTO)

ANGUIL BENEFITS

- Fully automated PLC based control system
- Supplemental Fuel Injection (line item)
- Variable Frequency Drive (VFD) to control system fan reduces operating costs
- 95% nominal heat transfer efficiency
- Phone modem for remote diagnostics
- Field tested and proven technology
- Full equipment warranty
- Factory tested prior to shipment
- 24-hour service support

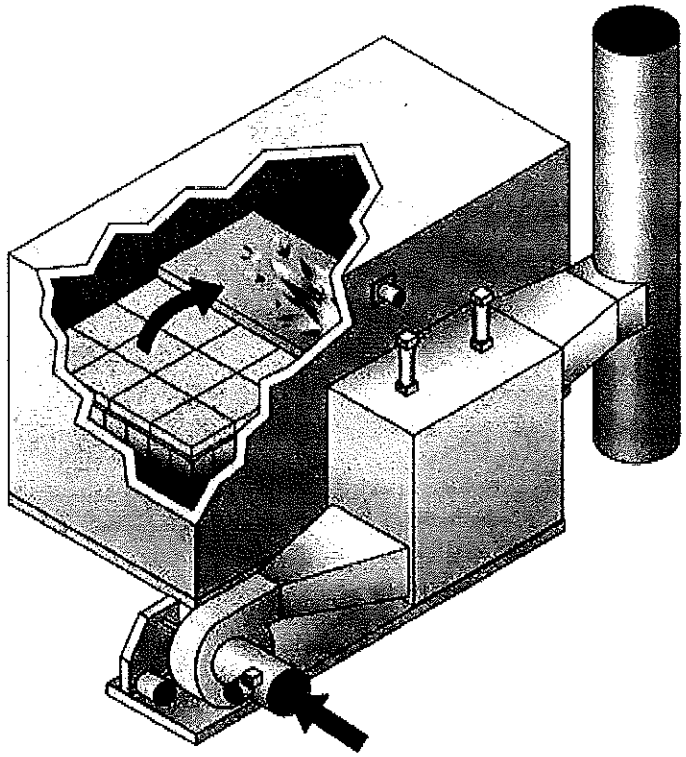
Section II – Equipment Specifications: Regenerative Thermal Oxidizer

One Anguil Model 150 Regenerative Thermal Oxidizer will process 15,000 SCFM of VOC laden air, providing 98% destruction efficiency.

The oxidizer consists of two, reinforced, insulated chambers filled with high temperature chemical porcelain ceramic energy recovery media. The oxidizer utilizes natural gas fired burners to maintain the oxidizer above the oxidation temperature. Located beside the energy recovery chambers are diverter valves and air duct plenum passages, which allow the process airflow to be diverted into and out of the oxidizer in either a clockwise or counter-clockwise mode. The directional mode is controlled by a PLC, which changes the direction of airflow at regular intervals to optimize system efficiency. Typical operational cycles range from 2 to 4 minutes.

In operation, the process exhaust enters the oxidizer via an energy recovery chamber where the high temperature ceramic heat transfer media preheats the process exhaust prior to introduction into the oxidation chamber. As the process exhaust passes up through the bed, its temperature rapidly increases. After the chemical oxidation purification reaction occurs, the hot, clean, outgoing gas heats the exit energy recovery bed. In order to maintain optimum heat recovery efficiency of the bed, the process exhaust flow direction is switched at regular intervals by the automatic diverter valves on demand from the PLC control system. This periodic flow direction shift provides a uniform temperature distribution throughout the entire oxidizer.

With sufficient concentration of VOCs (3 – 4% Lower Explosive Limit, LEL) in the process stream, the heat energy content of the hydrocarbons will self-sustain the oxidation process, and no additional heat energy will be required.



Equipment Specifications: Regenerative Thermal Oxidizer

The equipment will be supplied per the following specifications:

SYSTEM

- Approximate Footprint: 21' x 33'
- Approximate Weight: 80,000 Lbs
- **Alternate configuration available to meet specific site requirements**

FRESH AIR DAMPER

- Fresh air inlet with modulating damper is used during oxidizer start-up, shut-down or purging during idle time
- Allows for safe start-up and shut-down on ambient air
- The damper is controlled by a signal from the PLC

SYSTEM PROCESS FAN

- Forced Draft design
- Carbon steel construction
- Twin City Fan, New York Blower or equal
- Sized to provide –1" w.c. at the oxidizer inlet
- 75 Hp, 460V/60Hz/3PH TEFC (Totally Enclosed Fan Cooled) motor
- Fan designed for -1" WC at RTO inlet (equivalent to 100' of ductwork, with two elbows and 2500 fpm maximum velocity from T-dampers to oxidizer inlet). Any additional ductwork, elbows or duct velocity may affect fan selection.

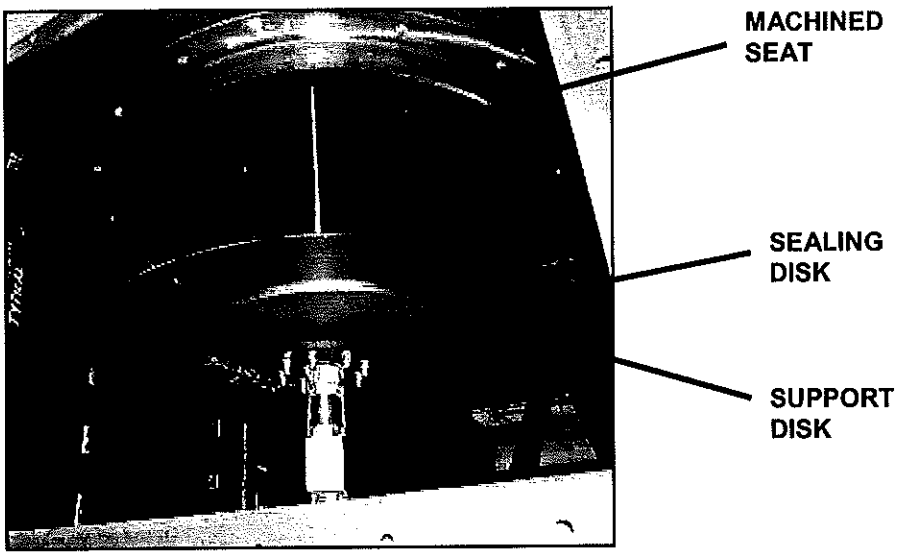
VERTICAL POPPET VALVES

- Two (2) poppet style process air diverter valve assemblies
- Vertical shaft design
- One diverter valve assembly will be located next to each energy recovery chamber
- Diverter valves control the process airflow into and out of the energy recovery beds
- Operated by pneumatic actuators and controlled by the PLC to maintain optimum energy efficiency
- Accumulator tank included
- See Attachment for additional valve specifications
- **5 Year Warranty**

Equipment Specifications: Regenerative Thermal Oxidizer

POPPET SPECIFICATIONS

- Three-way poppet valve design, vertical installation
- Exhaust mufflers for speed control and soft seats for quite operation
- Carbon steel poppet body, machined seat and sealing disk
- Fabricated ¼" plate cylinder support
- Bolted and removable actuator mounting
- Machined seats for less than 0.25% leakage at 25in WC differential pressure
- Parker Hannifin heavy-duty pneumatic cylinder actuator (5 year manufacturers warranty)
- One-second stroke time from open to closed positions with 80-psig compressed air supply
- High flow 4-way solenoid valve with flow controls
- Allen Bradley end of travel proximity switches at the open and closed position
- Limit switches and solenoid valves prewired to a junction box
- Includes an accumulator tank
- Valve pressure drop of 2in WC
- Poppet valve maximum temperature of 700°F
- Rectangular ports for inlet/outlet ducting
- Rectangular access ports on each valve for inspection purposes
- Lockout device with padlock provision



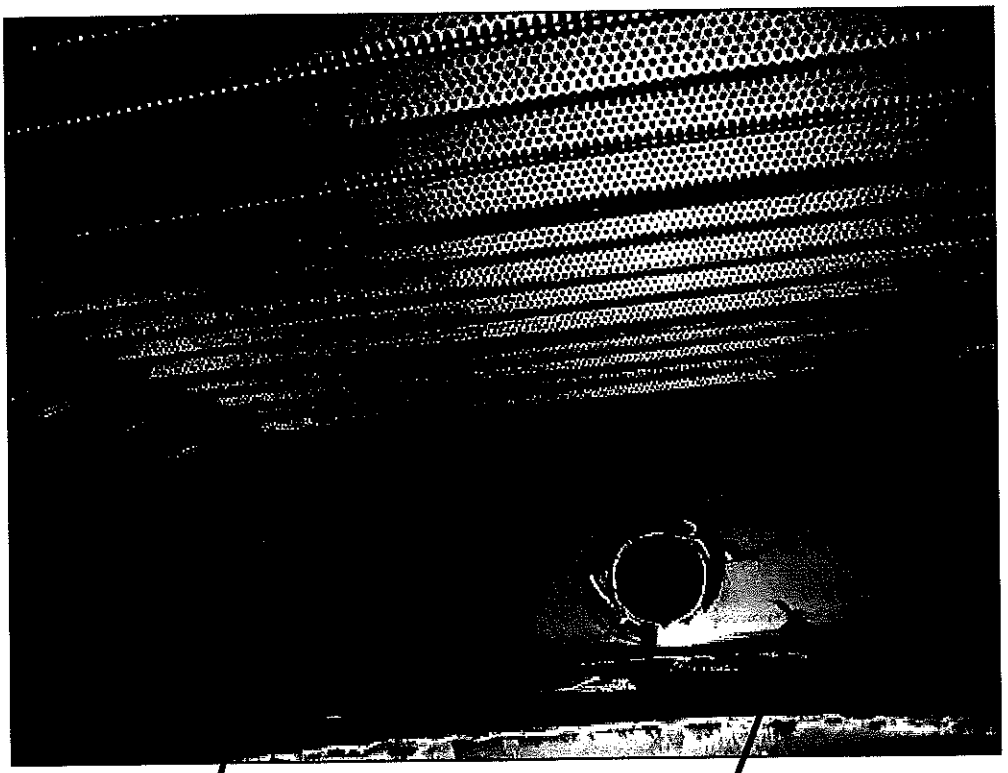
Equipment Specifications: Regenerative Thermal Oxidizer

VARIABLE FREQUENCY DRIVE

- Allen Bradley Powerflex Variable Frequency Drive (VFD) to regulate airflow through the system
- VFD controlled by a pressure transducer located up-stream of the fan
- VFD mounted in a NEMA 12 cabinet. Panel will be mounted in a temperature-controlled control room
- Provides system fan turn-down to minimize operating cost.
- Three (3) year warranty.

SUPPORT STRUCTURE/HEAT RECOVERY MEDIA SUPPORT GRID

- A support structure is provided to support the oxidizer chambers and the structured heat recovery media support grid.
- Support structure is fabricated of carbon steel structural members and is designed to support the oxidizer dead loads.
- Media support grid is fabricated of carbon steel and is designed to support the ceramic heat recovery media



Media Support Grid **Structural Support Member**

Equipment Specifications: Regenerative Thermal Oxidizer

MEDIA SUPPORT GRID ACCESS DOORS

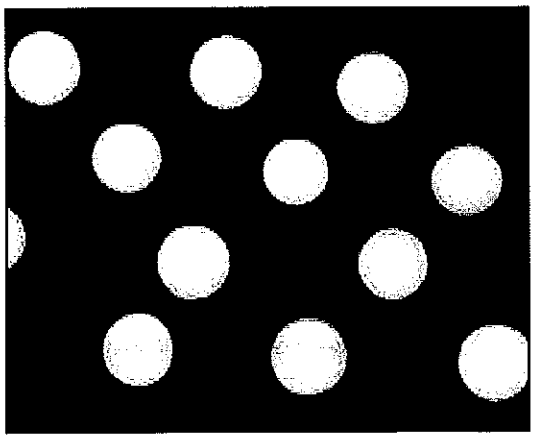
- Two (2) gasketed and bolted access openings are provided for access to the media support grids
- Allows for routine inspection of the heat recovery media cold face and media support grid

ENERGY RECOVERY CHAMBERS

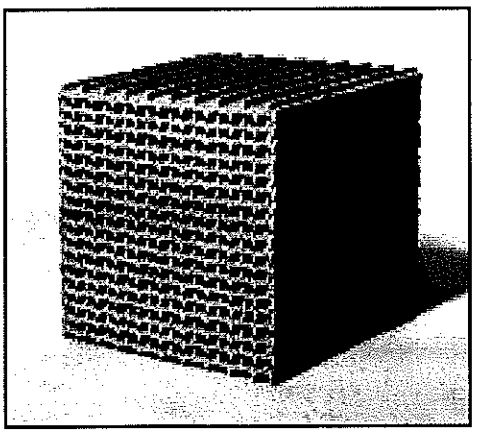
- Two (2) energy recovery chambers
- Rectangular cross sections fabricated of carbon steel
- Reinforced to withstand the pressure requirements of the process air fan and all other applied loads
- Internally insulated with 6" thick, 8# density ceramic module insulation
- Insulation modules are shop installed with 310 stainless steel reinforcements and mounting hardware
- Insulation is capable of operation up to 2300°F

HEAT TRANSFER MEDIA

- Two (2) beds of high temperature chemical porcelain structured heat transfer media
- 95% nominal heat transfer efficiency
- Ceramic media designed to provide optimum heat transfer surface area
- Media bed for proper air distribution and optimum RTO performance
- Low system pressure drop
- 6" layer of random packed ceramic spheres on the bottom of each bed to provide even air distribution through the beds
- ~ 5' of MLM-180 structured media on top of the ceramic spheres to provide the 95% nominal heat transfer efficiency



CERAMIC SPHERES

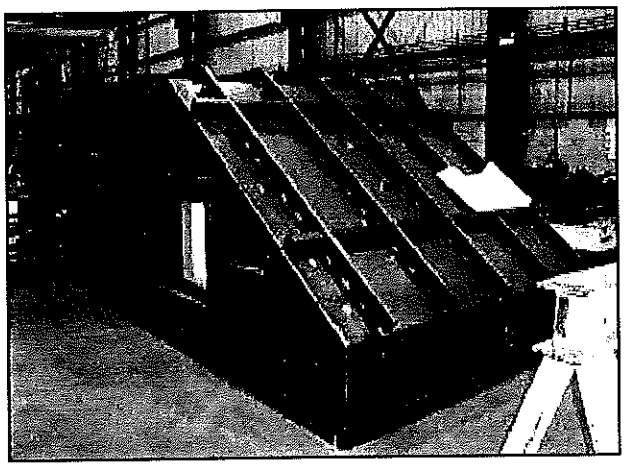


MLM-180

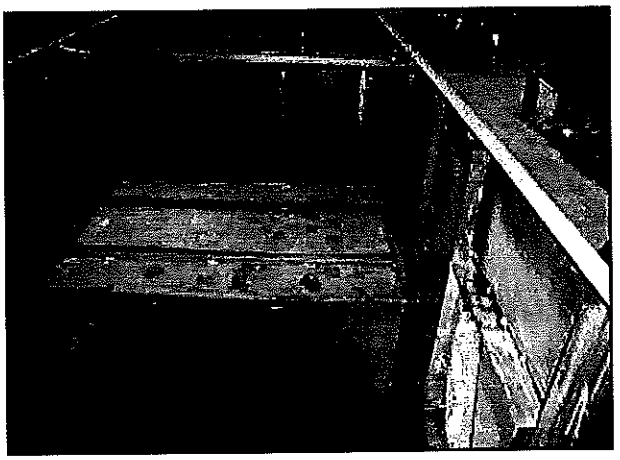
Equipment Specifications: Regenerative Thermal Oxidizer

COMBUSTION CHAMBER

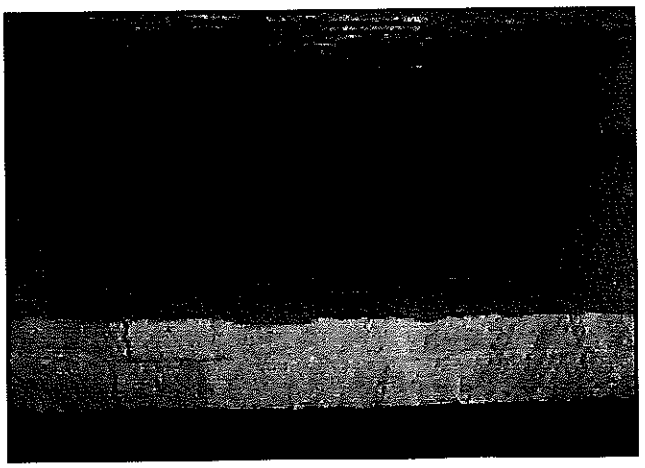
- An inverted "U" shaped oxidation chamber will provide the required retention time for VOC destruction
- Rectangular cross-section and fabricated of carbon steel
- Reinforced to withstand the pressure requirements of the process air fan and all other applied loads
- Internally insulated with 8" thick, 8# density ceramic module insulation
- Insulation modules are shop installed with 310 stainless steel reinforcements and mounting hardware
- Insulation is capable of operation up to 2300°F



Combustion Chamber exterior prior to painting



Combustion Chamber interior prior to insulating



Combustion Chamber interior with insulation installed

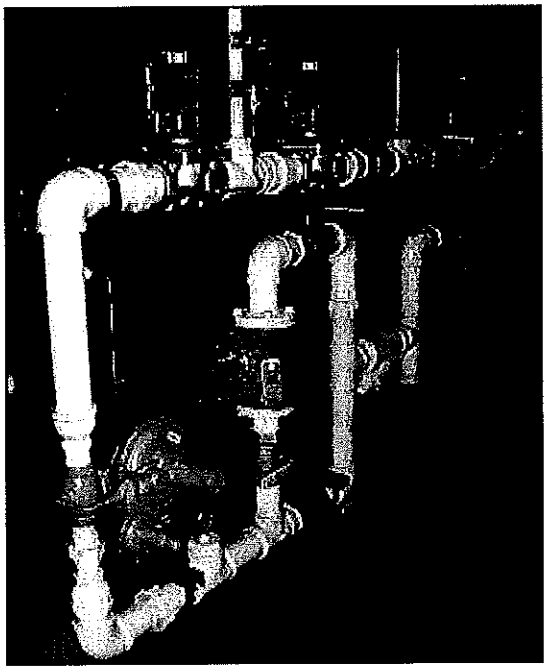
Equipment Specifications: Regenerative Thermal Oxidizer

COMBUSTION CHAMBER ACCESS DOORS

- Two (2) gasketed and bolted access doors to the combustion chamber are provided
- Allows for routine inspection of the heat recovery media, insulation and burner

BURNERS/GAS TRAIN

- Maxon Kinemax burner
- Fuel source – Natural gas
- Burner installed maximum capacity – 3.7 MM BTU/hr total. Burner installed capacity is much higher than required during normal operation to allow the system to respond rapidly to a significant airflow increase without losing proper RTO operational temperatures
- Fabricated to FM Global specifications
- Burners have capacity to maintain system operating temperature during VOC free, full air flow conditions
- A platform for access to the burners is provided. Access to the platform will be by a ladder from grade.
- 3" burner view port provided
- Fireye flame safety control with self-checking dynamic UV scanner



Fuel Train

Two (2) Kinemax burners

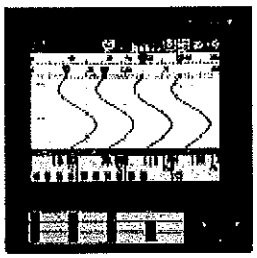
Equipment Specifications: Regenerative Thermal Oxidizer

COMBUSTION AIR FAN

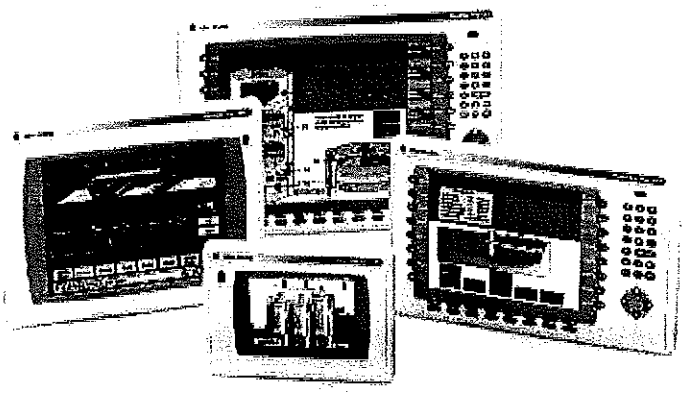
- Twin City, New York blower or equal
- Pre-piped and pre-wired
- TEFC motor
- Inlet filter
- Independent PLC controlled Natural Gas/Air combustion valves and actuators

SYSTEM CONTROLS

- Fully automated PLC (Programmable Logic Controller) controls
- Allen Bradley Compact Logix PLC
- NEMA 12 panel enclosure located indoors
- First out shutdown detector: Panelview Plus 1000 Color Screen will indicate cause of system shutdown via a digital message in English
- Digital data recorder to monitor the reactor and stack temperatures
- Phone modem for remote diagnostics
- Pressure Transmitter setpoint control with the Variable Frequency Drive, with the automatic PLC controls, will modulate the fresh air damper open to control setpoint when the drive is at minimum speed to always provide 20% flow through the unit as a minimum
- PLC controls will open fresh air damper when the last T-damper comes off of the RTO open inlet position
- Excess negative switch at the RTO inlet will shut the system down in the event all process and fresh air dampers should all be closed during a valve malfunction condition



Yokogawa Digital Chart Recorder



Allen-Bradley Panelview Plus

Equipment Specifications: Regenerative Thermal Oxidizer

SUPPLEMENTAL FUEL INJECTION SYSTEM –SFI (LINE ITEM)

The Anguil Supplemental Fuel Injection (SFI) system is designed as a high efficiency alternate means of controlling the RTO reaction chamber temperature. During system operation, when appropriate safeties have been satisfied, the burner and combustion air systems can be turned off and the RTO combustion chamber temperature can be maintained by injecting natural gas directly into the VOC laden airstream – typically at or near the inlet of the RTO system. The benefits of SFI are:

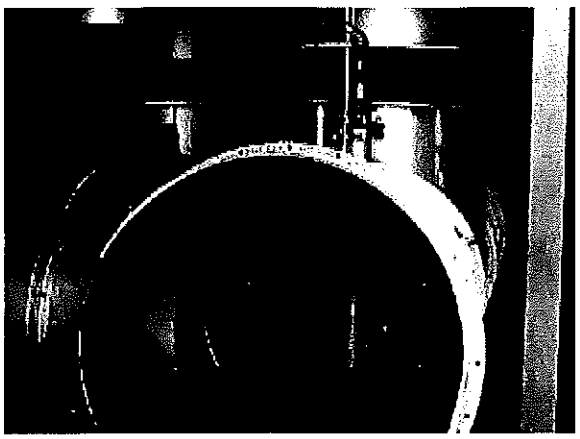
- **Provides high fuel efficiency by reducing combustion air**
- **Provides ultralow NOx emissions with flameless operation**
- **Provides a more uniform temperature profile throughout the RTO**

All natural gas injection systems enjoy these benefits, but not all systems are created equally. To date, Anguil's level of safety and controls for natural gas injection have been unmatched in our competitors.

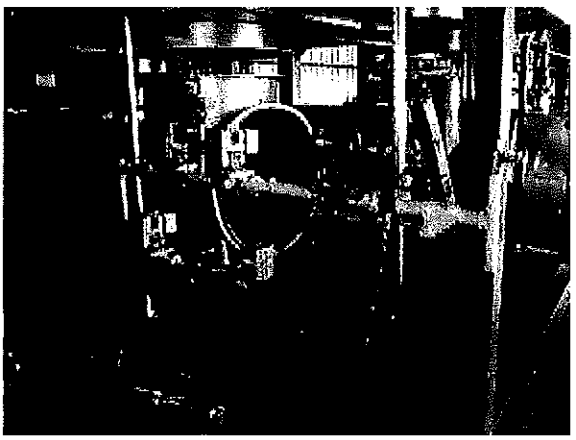
A few of the highlights are:

- Some RTO systems with gas injection are designed with startup burners only. Anguil's SFI system is a ***redundant & optional*** fuel delivery system. Anguil RTOs are designed so that the SFI option can be disabled at any time and the system can operate in burner mode if desired.
- Some gas injection systems are designed as solenoid-type full-on or full-off systems. Anguil uses modulating injection valves for more precise control.
- Some gas injection systems are not designed for proper mixing of the natural gas with the solvent laden airstream. Anguil's SFI system is designed with multiple levels of safeties and a custom designed injection quill to ensure a well mixed airstream is delivered to the RTO chamber.

Natural gas injection is an excellent means of reducing system operating cost and providing a cleaner "burn" when properly designed and applied.



Supplemental Fuel Injection (SFI)
Custom Designed Injection Quill



Supplemental Fuel Injection (SFI)
Additional Fuel Train Piping

Equipment Specifications: Regenerative Thermal Oxidizer

EXHAUST STACK

- Constructed of carbon steel
- Supported by guy wires
- Stack height will be 30' above grade
- Two (2) EPA tests ports provided at 90°, to each other

OVER TEMPERATURE PROTECTION

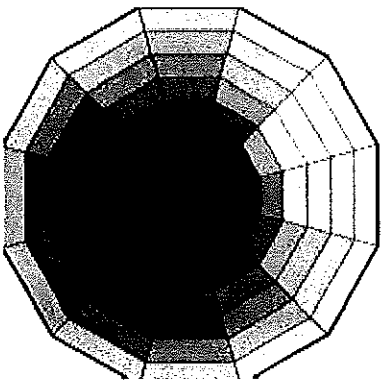
- A thermocouple in the exhaust duct continuously monitors the temperature to ensure that it does not exceed factory design settings
- If the exhaust air temperature exceeds the factory design settings the oxidizer will self regulate to prevent a shutdown

OFF LINE BAKE OUT

- The oxidizer can be operated in an off-line bake-out mode to allow for the removal of organic build-up on the cold face of the heat exchange media. In the bake-out mode, the RTO is taken off-line from the process. At a reduced airflow, the outlet temperature is allowed to reach an elevated temperature before the flow direction is switched. This hot air vaporizes organic particulate collected on the cold face of the heat exchange media. The flow direction is then switched and the opposite cold face is cleaned.
- Area below the media support grid will be insulated

PAINTING

- All welds caulked prior to painting
- All exposed surfaces of the oxidizer will be primed, and painted with two (2) shop coats of Anguil's standard high temperature coating.
- UV resistant polyurethane paint
- Paint color can be specified by the customer
- Access platforms, support structures, and access ladders are primed and painted with one coat of Anguil's standard coating.
- Combustion air piping as well as natural gas and compressed air piping will be primed and painted with one coat of Anguil's standard coating. All other equipment will be the manufacturer's standard paint and color.



START-UP AND TRAINING SERVICES

- Service technician will be provided for up to five (5), eight-hour consecutive days to start-up and balance the oxidizer
- 1 day of operator training will be conducted during start-up. Training to include ½ day classroom sessions and on unit training.
- In the event start-up is not completed due to the fault of Anguil, Anguil will remain on site at our cost.

Equipment Specifications: Regenerative Thermal Oxidizer

OPERATION & MAINTENANCE MANUALS

- Two (2) hard copy sets of the Operation and Maintenance Manuals (O&M) containing the sequence of operation and drawings
- All vendor bulletins will be provided on CD-ROM

FINAL ASSEMBLY AND SHOP TEST

- Temporary assembly of complete system
- Starting of burner
- Control checkout
- Run electrical conduit
- Customer is invited to witness shop testing

***Note: All weights, dimensions, horsepower ratings, burner sizing, and specific engineering details within the proposal are approximate and will be confirmed by Anguil Environmental following order placement.**